What is Claimed:

1. A system for transmitting quality speech signals in a communication connection from an originating device to a destination device over an IP-based network, comprising:

a port circuit for transmitting data packets, containing encoded speech signals received from an associated originating device, to said destination device via said IP-based network;

transmit buffer means, connected to said port circuit associated with said originating device, for storing a plurality of said data packets received from said associated originating device;

network activation means for activating said IP-based network to operate using a packet transmission protocol that fails to retransmit lost or damaged packets; and

packet retransmission means, operable independent of said packet transmission protocol, for activating said port circuit to retrieve a lost or damaged packet from said transmit buffer means for retransmission to said destination device.

2. The system for transmitting quality speech signals of claim 1 wherein said packet retransmission means comprises:

packet error detection means, connected to said destination device, for generating an indication that identifies a missing packet; and

means for transmitting a signal to said port circuit associated with said originating device requesting retransmission of said identified missing packet.

3. The system for transmitting quality speech signals of claim 1 further comprising:

transmit buffer control means for transmitting a signal to said port circuit associated with said originating device to regulate the size of said transmit buffer means.

4. The system for transmitting quality speech signals of claim 1 further

comprising:

jitter buffer management means for regulating a size of a jitter buffer associated with said destination device as a function of at least one of: network transmission delay, speed of processing received packets, time required to identify the absence of a packet in a sequence of received packets, time required to receive a retransmitted packet.

5. The system for transmitting quality speech signals of claim 1 further comprising:

application detection means for determining that said communication connection serves a speech-based application that requires high quality speech signals.

6. The system for transmitting quality speech signals of claim 5 further comprising:

network control means, responsive to said application detection means, for activating said IP-based transmission medium to transmit said high quality digital encoded speech signals without transcoding.

7. The system for transmitting quality speech signals of claim 5 further comprising:

process disabling means, responsive to the conclusion of operation of said speech-based application, for disabling operation of said packet retransmission means.

8. The system for transmitting quality speech signals of claim 5 wherein said application detection means comprises:

destination device identification means for determining the presence of a destination device on said communication connection that requires high quality speech signals.

9. The system for transmitting quality speech signals of claim 5 wherein said application detection means comprises:

registration process detection means for determining the presence of a subscriber identification process at said destination device.

10. The system for transmitting quality speech signals of claim 9 further comprising:

process disabling means, responsive to the conclusion of operation of said subscriber identification process, for disabling operation of said packet retransmission means.

11. A method for transmitting quality speech signals in a communication connection from an originating device to a destination device over an IP-based transmission medium, comprising:

transmitting data packets, containing encoded speech signals received from said originating device, from a port circuit serving said originating device to said destination device via said IP-based network;

storing, in a transmit buffer connected to said port circuit, a plurality of said data packets received from said associated originating device;

activating said IP-based network to operate using a packet transmission protocol that fails to retransmit lost or damaged packets; and

activating, independent of said packet transmission protocol, said port circuit to retrieve a lost or damaged packet from said transmit buffer for retransmission to said destination device.

12. The method for transmitting quality speech signals of claim 11 wherein said step of activating said port circuit comprises:

generating an indication that identifies a missing packet; and

transmitting a signal to said port circuit associated with said originating device requesting retransmission of said identified missing packet.

13. The method for transmitting quality speech signals of claim 11 further comprising:

transmitting a signal to said port circuit associated with said originating device to regulate the size of said transmit buffer.

14. The method for transmitting quality speech signals of claim 11 further comprising:

regulating a size of a jitter buffer associated with said destination device as a function of at least one of: network transmission delay, speed of processing received packets, time required to identify the absence of a packet in a sequence of received packets, time required to receive a retransmitted packet.

15. The method for transmitting quality speech signals of claim 11 further comprising:

determining that said communication connection serves a speech-based application that requires high quality speech signals.

16. The method for transmitting quality speech signals of claim 15 further comprising:

activating, in response to said step of determining, said IP-based transmission medium to transmit said high quality digital encoded speech signals without transcoding.

17. The method for transmitting quality speech signals of claim 16 further comprising:

disabling, in response to the conclusion of operation of said speech-based application, operation of said step of activating said port circuit to retransmit lost or damaged packets.

18. The method for transmitting quality speech signals of claim 16 wherein said step of determining comprises:

determining the presence of a destination device on said communication connection that requires high quality speech signals.

19. The method for transmitting quality speech signals of claim 16 wherein said step of determining comprises:

determining the presence of a subscriber identification process at said

destination device.

20. The method for transmitting quality speech signals of claim 19 further comprising:

disabling, in response to the conclusion of operation of said subscriber identification process, operation of said step of activating said port circuit to retransmit lost or damaged packets.